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REMARKS

All claims have been amended to specifically distinguish over Slaughaupt et al. in particular, emphasizing location of and dissolution of much of the anode protection material, in accordance with FIG. 4 of this application, and paragraphs [0021], [0023] & [0024].

Claims 1, 2, 4, 10 and 14 have been amended and claims 3, 9, 12-13 and 16 canceled. Claims 1, 2, 4-8, 10, 11, 14, 15 and 17-19 remain.

CLAIM REJECTION UNDER 35 U.S.C. 102

Claims 1-3 and 5-19 were rejected as being anticipated Slaughaupt et al. U.S. Pub 2003/0209426 A1. Slaughaupt et al. (U.S. Pub '426) teaches an arrangement where inert anodes (14) have attachment bolts (not-numbered) passing between preformed refractory blocks (12), loose insulation (16) and additional insulation (18). The preformed refractory blocks (12) only contact the top surface of inert anodes (14). The bolts (not-numbered) are bolts, not anodes. Applicants bolts 16 extend through top plate 18 to the anode 14 tops (upper surface in the figures). Compare applicants FIG. 2 with the FIG of U.S. Pub '426. Applicants have made substantial amendment to independent claims 1 and 10, further defining the term circumscribing and the substantial dissolution of the solid material around the anodes. Applicants solid material 12' in FIGS. 2 & 4 deliberately dissolves, whereas dissolution of blocks 12 in U.S. Pub '426 would be disastrous to that system.

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The Slaughaupt et al. U.S. Pub '426 uses blocks of material consisting of a mixture of fluorides and alumina to serve as a permanent thermal insulation material above the anodes. In the claims of this application, the blocks of material surrounding the anode serve to insulate the anodes during preheat, but are not permanent, i.e. they are designed to dissolve away to a substantial extent after the anode is put into service in a cell, and are at or below the anode level, while the Slaughaupt et al. U.S. Pub '426 reference uses the insulating blocks above the anode. As the court stated in In re Boe and Duke, 184 U.S.P.Q. 38, 40 (1974-C.C.P.A.):

"This court has stated that all limitation must be considered and that it is error to ignore specific limitations distinguishing over the references. In re Sacther, 181 U.S.P.Q. 36, 39 (1974 C.C.P.A.); In re Glass, 176 U.S.P.Q. 489, 491 (1973 C.C.P.A.)."

Applicants respectfully submit that Slaughaupt et al. does not anticipate applicants amended claims 1, 2, 4-8, 10, 11, 14, 15 and 17-19, and the Sudhölter et al. U.S. 5,098,530 does not supply what Slaughaupt et al. lacks to make applicants amended claims obvious.

PROVISIONAL CLAIM REJECTION UNDER DOUBLE PATENTING

Applicants' claims have been very substantially amended to such an extent that applicants submit this rejection is no longer applicable.

CLAIM REJECTION UNDER 35 U.S.C. 103

Slaughaupt et al. U.S. Pub '426 has been discussed and distinguished over at length above. Sudhölter U.S. 5,098,530 is used to reject claims 1, 3-4 and 9 under both 35 U.S.C. 102 and 35 U.S.C. 103. Sudhölter et al. teaches a protective globe (2)

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covering, as a skirt, most of the sides but not the bottom of carbon electrode 1. It does not suggest covering the bottom of electrode 1 to completely circumscribe it as required in all of applicants' amended claims. In FIG. 7b, the globe is in close proximity with the melt bath for 6 to 10 hours with no shown dissolution or other effects. Additionally, the electrode is a cathode not an anode. Why would one skilled on the art be prompted to try to completely reverse polarity? Case law dictates that in proceeding from the prior art to the invention claims, one cannot base obviousness of what a person skilled in the art might try, or find obvious to try, but must consider what the prior art would have led a person to do, as stated in In re Tomlinson, Hall and Geigle, 150 U.S.P.Q. 623,626 (C.C.P.A. 1966):

Our reply to this view is simply that it begs the question; which is obviousness under section 103 of compositions and methods, not of the direction to be taken in making efforts or attempts. Slight reflection suggests, we think that there is usually an element of 'obviousness to try' in any research endeavor, that it is not undertaken with complete blindness but rather with some semblance of a chance of success, and that patentability determinations based on that as a test would not only be marked deterioration of the entire patent systems as an incentive to invest in those efforts and attempts which go by the name of 'research'.

And also affirmed in The Gillette Co. v. S.C. Johnson and Son, Inc., 16 USPQ 2d 1923, 1928 (Fed. Cir. 1990).

Also there is no suggestion in Slaugenhaupt U.S. Pub '426 to have refractory anywhere other at the top of anodes 14, and as stated in In re Regal, 18 U.S.P.Q. 136, 139 (C.C.P.A. 1975):

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"As we have stated in the past, there must be some logical reason apparent from positive, concrete evidence of record which justifies an combination of primary and secondary references. In re Stenmiski, 170 U.S.P.Q. 343 (C.C.P.S.1971). Further, as we stated in In re Bergel, 130 U.S.P.Q. 206 (C.C.P.A.1961); 'The mere fact that it is possible to find two isolated disclosures which might be considered in such a way to produce a new compound does not necessarily render such production obvious unless the art also contains something to suggest desirability of the proposed combination'."

and also affirmed in In re Gergen, 11 U.S.P.Q. 2d 1652, 1653 (Fed. Cir. 1989), and Symbol Technologies Inc. v. Opticon Inc., 19 U.S.P.Q. 2d 1241, 1246 (Fed. Cir. 1991).

Even if U.S. Pub '426 and Sudhölter were properly combinable, it would not provide a completely circumscribed anode which dissolves into the hot bath to reduce thickness (46 in. applicants FIG. 4) of the anode covering thickness, allowing a large portion of the anode to contact electrolyte, and, where the dissolved material does not contaminate the bath, or aluminum produced, since it is made of solidified bath material, usually though harmful to the rest of the cell (applicants para. [0004]) and/or alumina, usually added to the bath.

Applicants respectfully submits that neither U.S. Pub '426 nor Sudhölter, taken either alone or together, teach or make obvious to one skilled in the art at the time the invention was made, the invention of amended claims 1, 2, 4-8, 10, 11, 14, 15 and 17-19.

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SUMMARY

In view of the foregoing amendments and arguments, applicants respectfully submit that all pending claims, claims 1, 2, 4-8, 10, 11, 14, 15 and 17-19 are in condition for allowance; and applicants respectfully request reconsideration and allowance of those claims.

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PATENT TRADEMARK OFFICE

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